

ABSTRACT OF THE DISCLOSURE

A thin-film piezo-resonator includes a silicon substrate and a resonator assembly. The substrate is formed with a cavity or through-hole which is opened in the upper and the lower surfaces of the substrate. The resonator assembly, disposed at a location corresponding to the cavity, is composed of a first electrode contacting the upper surface of the substrate, a piezoelectric layer formed on the first electrode and a second electrode formed on the piezoelectric layer. The cavity has a side surface extending in a substantially perpendicular direction to the first surface.